

Notice of Allowability

Application No.

10/692,184

Examiner

Victor J. Taylor

Applicant(s)

KELLY, STEVE MICHAEL

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6 September 2005.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Drawings

1. The drawings were received on 6 September 2005. These drawings are approved.

Response to Arguments

2. Applicant's arguments, see the amendment to the drawings and to the specification with the arguments for the data migration with downward extrapolation of pre-stack seismic data to include the steps for "determining the type of extrapolation to use in the migration interval" as filed 6 September 2005, which differs with the cited art of Berryhill have been fully considered and are persuasive. The 102 (b) of 2 June 2005 is moot and has been withdrawn.

Allowable Subject Matter

3. Claims 1-8 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:

Regards to claim 1, the data migration method for the downward extrapolation of pre-stack seismic data with steps for calculating a maximum relative error in phase as a function of frequency and propagation angle and the relative variation in velocity in the migration interval with the steps for comparing the maximum relative error in phase and including the steps for selecting and "determining the type of extrapolation selected from

a set to use in the migration interval" from the comparison of the maximum relative error in phase to the maximum error criterion is not found in the cited art of record.

Therefore, Independent claim 1, with the seismic data downward extrapolation of prestack seismic data migration with the steps for "selecting a set of prestack seismic data "...[and combined] with the steps for the "determining a migration interval in the seismic data set"...[and in combination with the steps used for] "selecting a maximum error criterion for the migration interval"...[and/or] in combination with the explicit steps "calculating a maximum relative error in phase as a function of frequency propagation angle and the relative variation in velocity in the migration interval"...[and] with "comparing the maximum relative error in phase to the maximum error criterion...[and/or] in combination with the explicit steps used to "determining the type of extrapolation to use in the migration interval from the comparison of the maximum relative error in phase to the maximum error criterion" in order to migrate the seismic data in downward extrapolation and chose the set and type of extrapolation is not found in the cited art of record.

It is these limitations expressed in each of these claims and not found, taught, or suggested in the prior art of record, that makes these claims allowable over the prior art.

Claims 2-8 are variously dependent on the allowed independent claim 1 and are allowed at least for the reasons cited above.

Conclusion


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor J. Taylor whose telephone number is 571-272-2281. The examiner can normally be reached on 8:00 to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571-272-2863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VJT


17 January 2006.


John Barlow
Supervisory Patent Examiner
Technology Center 2800